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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,830	11/21/2003	Allen Tran	UTL 00222	1331

7590 04/19/2005
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EXAMINER

DINH, TRINH VO

ART UNIT PAPER NUMBER

2821

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No. 10/718,830	Applicant(s) TRAN, ALLEN	
	Examiner Trinh Vo Dinh	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46-53 is/are allowed.
- 6) ☒ Claim(s) 1-15, 19-31, 35-37, 40, 41, 43-45, 54-60, 64 and 65 is/are rejected.
- 7) ☒ Claim(s) 16-18, 32-34, 38, 39, 42 and 61-63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawing

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “406” on page 10 line 15.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the dielectric is interposed between the counterpoise and the radiator” must be shown clearly or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 19 and 43 are objected to because of the following informalities:

In claim 19 line 3, and claim 43 line 1, “a radiator non-fractal geometry section” should be changed to --the radiator non-fractal geometry section--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, line 2 recites a limitation of “a pseudo-fractal geometry”. It is unclear the “pseudo-fractal geometry” is different from or the same as “pseudo-fractal geometry” recited in claim 1. If they are different, the drawings must shown two “pseudo-fractal geometry” sections, one for the radiator and the other for the counterpoise. Otherwise, in claim 10 line 2, “a pseudo-fractal geometry” must be changed to --the pseudo-fractal geometry--.

In claim 11, line 2 recites a limitation of “fractal geometry”. It is unclear the “fractal geometry” is different from or that same as the “fractal geometry” recited in claim 2. If they are different, the drawings must shown two “fractal geometry” sections, one for the radiator and the other for the counterpoise. Otherwise, in claim 11 line 2, “a fractal geometry” must be changed to --the fractal geometry--.

Claim 12 is rejected because of depending on claim 11.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 14-15, 19-25, 36-37, 40-41, 43-45 and 64-65 drawn to the apparatus and the method claims 54-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohen (US 6,445,352).

With respect to claims 1-3, Cohen discloses, in Figs. 3A-3C, a dielectric (60) and a radiator (40) proximate to the dielectric having an effective electrical length formed in a pseudo-fractal geometry (a fractal portion and a straight line portion) wherein radiator includes at least one section formed in fractal geometry (a fractal portion) and at least one section formed in a non-fractal geometry (a straight line portion connected fractal element 40 to feed point 45).

With respect to claim 22-25, Cohen discloses a wireless communication device receiver (col. 4, lines 34-67), and a pseudo-fractal antenna, fractal geometry, non-fractal geometry as discussed in claims 1-3 above.

With respect to claims 14-15 and 36-37, Cohen discloses the radiator conductor (40) being embedded in the dielectric or overlying the dielectric layer (60, col. 3, lines 20-45).

With respect to claims 20-21 and 44-45, Cohen discloses the radiator pseudo-fractal geometry being a Koch curve (col. 2, lines 66-67) and a second order iteration Koch curve (col. 3, lines 20-25).

With respect to claims 40-41, Cohen discloses the antenna including a transmission line interface (140, col. 4, line 34), and the receiver GPS receiver inherently having a port connected antenna transmission line interface (Figs. 3C-4B, col. 4, lines 35-67).

With respect to claims 19 and 43, Cohen discloses the radiator non-fractal section (section from 40 to 45 in Fig. 3C) being formed closer to the transmission line interface (140) than the fractal geometry section (40).

Art Unit: 2821

With respect to claims 64-65, Cohen discloses a wireless telephone transceiver (30 Fig. 4A or col. 4, lines 34-43) inherently including a communication port, and a fractal antenna (Fig. 3A) having a radiator (40), proximate to a dielectric (60), with an effective electrical length formed in a fractal geometry (col. 2, line 60), and the radiator (40) being formed as a Koch curve (col. 2, line 67).

With respect to claims 54-56, the apparatus discussed above would perform the claimed method.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4-9, 13, 26-31 and 35 draw to the apparatus and the method claims 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen'352 in view of Handelsman (US 2005/0007294).

With respect to claims 4 and 26, Cohen discloses every feature of the claimed invention except the effective electrical length selected from the group including a half-wavelength and a quarter-wavelength of the antenna operating frequency. Handelsman discloses the radiator's effective electrical length being a half-wavelength (paragraph [0039], [0062]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the electrical length of the radiator to about $\lambda/2$. Doing so would result in a high radiation resistance and a high inductive reactance as taught in paragraph [0062] of Handelsman.

With respect to claims 5-6, and 27-28 Cohen discloses the antenna operating frequency selected from the group including approximately 1575 megahertz (MHz), approximately 850 MHz, and approximately 1920 MHz (col. 1, lines 25-29), and the antenna being selected from the group including monopole and dipole antennas (Fig. 3 or col. 1, lines 22-23).

With respect to claims 7-9 and 29-31, Cohen further discloses the antenna having a counterpoise (120) wherein the dielectric (60) being interposed between the counterpoise (120) and the radiator and the radiator, and the radiator fractal geometry section (40) being formed in a Koch curve (col. 2, line 67).

With respect to claims 13 and 35, Cohen discloses the counterpoise (120) forming in a non-fractal geometry.

With respect to claims 57-60, the apparatus discussed above would perform the claimed method.

Allowable Subject Matter

10. Claims 46-53 are presently allowed.
11. Claims 10-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
12. Claims 16-18, 32-34, 38-39, 42 and 61-63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
13. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2821

The cited art of record fails to teach the counterpoise having an effective electrical length formed in a pseudo-fractal geometry as defined in claims 1 and 32, or an balun antenna feed having a transmission line interface, a radiator and a counterpoise wherein the radiator and the counterpoise being formed on the dielectric layer in a pseudo-fractal pattern and connected to balun lead port and lag port respectively as defined in claim 46.

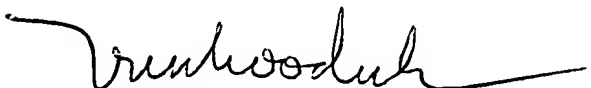
Inquiry

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art unit 2821



*Trinh Vo Dinh
April 16, 2005*